Full-size PCI/ISA All-in-One Pentium CPU Card
with CRT SVGA Interface and DiskOnChip Flash Disk socket

CPU temperature control / alarm

512 KB pipeline burst cache

VGA

PS/2

COM1

Keyboard

Intel® 82437 VX PCIset™

S3® Trio64 V2/DX™ with 2 MB EDO memory

DiskOnChip®2000 supports TrueFFS® up to 72 MB
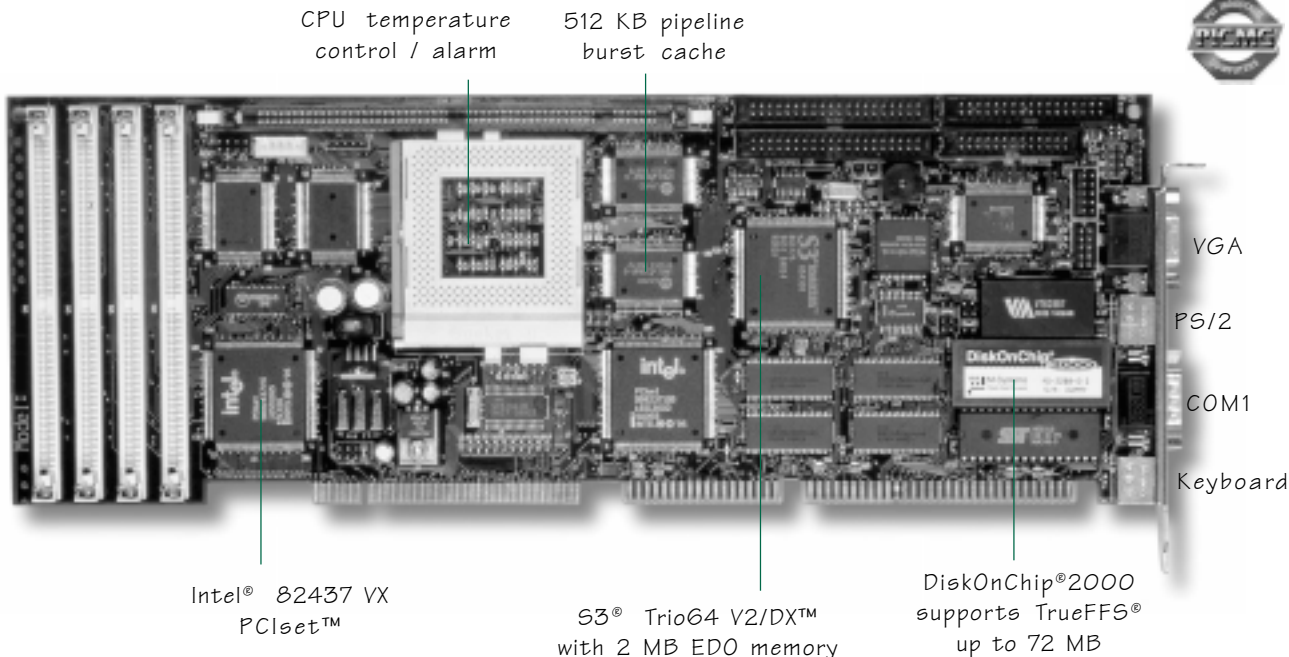
Special Features

- **Accepts AMD K5 and K6, Intel MMX, and Cyrix M1/M2**

- **CPU temperature control and alarm function**

- **DiskOnChip® 2000 socket for Flash disk of up to 72 MB**

- **PCI SVGA interface with high performance S3® Trio64V2/DX chipset and 2 MB memory**

- **PCI Enhanced IDE with high speed Multi I/O support**

- **512 KB pipeline burst cache**

- **Watchdog Timer**

The PIA-652 is a full-size PCI/ISA Pentium single board computer based upon INTEL's 82437 VX PCIset. It includes an onboard SVGA CRT interface and a DiskOnChip®2000 socket for Flash Disks up to 72 MB. The PIA-652 includes special cicuitry to stabilize CPU temperature and send an audible alarm when the CPU overheats.

PCI EIDE, HIGH SPEED MULTI I/O

The PIA-652's PCI Enhanced IDE interface supports ATA PIO mode 3 and mode 4 devices enabling data transfer rates in excess of 11 MB/sec. Up to 4 IDE devices can be connected, including hard disks, CD-ROM drives, tape backup drives and other IDE devices.

Also supported are two high-speed serial ports (2 x RS-232) with 16C550 UARTs and 16-Byte FIFO's, an enhanced bi-directional parallel port supporting SPP/ECP/EPP mode, a floppy controller and onboard support for USB and IrDA.

CRT SVGA CONTROLLER

The CRT SVGA controller is based on S3's latest Trio64 V2/DX chipset and comes standard with 2 MB memory. It is your guarantee for high speed and excellent compatibility with all popular operating systems.

DISKONCHIP®2000

The PIA-652's SSD socket accommodates a DiskOnChip®2000, a new generation of high performance single-chip Flash Disks. This unique data storage solution offers a better, faster and more costeffective Flash Disk for applications with limited space and modest disk capacity requirements.

WATCHDOG TIMER

The onboard Watchdog Timer can invoke an interrupt or reset the CPU when your application loses control over the system.

Specifications

- **CPU** : AMD K5 and K6, Cyrix 6x86 and M2
  Intel 75~200 MHz and Intel MMX

- **Chipset** : Intel 82437 VX, PCIset

- **BIOS** : AWARD PCI/ISA PnP system BIOS,
  shared with VGA BIOS, 128 KB Flash

- **Green Function** : power saving options supported in BIOS.
  DOZE / STANDBY / SUSPEND modes

- **Secondary Cache** : 512 KB pipeline burst

- **DRAM Memory** : up to 128 MB of BEDO, EDO or FP DRAM
  four 72-pin SIMM and one 168-pin DIMM socket

- **Bus Interface** : PCI and ISA, complies with PICMG standard

- **Data Bus** : 64-bit

- **Bus Speeds** : PCI - 33 MHz, ISA - 8 MHz

- **DMA Controllers** : 8237 x 2

- **DMA Channels** : 7

- **Interrupt Controllers** : 8259 x 2

- **Interrupt Levels** : 15

- **PCI Enhanced IDE** : supports two ports and up to four hard
  drives or Enhanced IDE devices. Supports PIO mode 4 and
  Bus-Master. BIOS enabled/disabled

- **Watchdog Timer** :
  generates a system reset or interrupt when your application
  loses control over the system. The 6-level timer interval is
  configurable from 0 to 220 seconds by jumper setting.

- **Real-time Clock** : Dallas DS-12887A (or compatible)
  with lithium battery backup for 10 years of data retention.
  CMOS data backup of BIOS setup and BIOS default.

- **Keyboard and Mouse Connectors** :
  6-pin mini DIN for PC/AT keyboard
  6-pin mini DIN for PS/2 keyboard or PS/2 mouse
  Onboard 5-pin header connector for keyboard

HIGH SPEED MULTI I/O

- **Chipset** : ALi M5113 (enable/disable by jumper)

- **Serial Ports** :
  one external high speed RS-232 port, one internal high
  speed RS-232; both with 16C550 UART and 16-byte FIFO.

- **USB** : two onboard USB ports (reserved for future use)

- **IR interface** : IrDA TX/RX header

- **Floppy Disk Drive Interface** : supports up to two floppy
  drives, 5¼" (360 KB or 1.2 MB) and 3½" (720 KB, 1.44 MB or
  2.88 MB). BIOS enabled/disabled

- **Bi-directional Parallel Port**: IRQ 5/7/9 or disabled
  supports SPP, EPP and ECP mode. BIOS enabled/disabled

CRT PCI SVGA INTERFACE

- **Chipset** : S3 Trio64V2/DX

- **BIOS** : combined with system BIOS

- **Memory :** 2 MB

- **Bus** : 32-bit PCI local bus

- **Display Type** : CRT

- **Connectors** : 15-pin external connector ,
  10-pin internal header

FLASH DISK DISKONCHIP®2000

- **Package** : Single Chip Flash Disk in 32-pin DIP JEDEC

- **Capacity** : 1-72 MByte capacity
  (future capacities: 144 MByte and up)

- **Data Reliability** : ECC/EDC error correction

- **Memory Window** : 8 KByte

- **Software Support** :

  Built-in TrueFFS®
  which provides full hard disk read/write compatibility.

  Operates with FLite™
  (FAT-FTL/Lite) in O/S-less environment

  Broad O/S support
  DOS, Windows, Windows95, Windows CE, Windows NT.
  Additional support : pSOS+, QNX , VxWorks

ENVIRONMENTAL AND POWER

- **Power Requirements** :
  +5 V (4.75 ~5.25 V) @ 6 A max,
  ±12 V @ 20 mA max

- **CPU Temperature Management** :
  temperature detection with voltage adjustment to maintain
  constant CPU temperature

- **CPU temperature Alarm**: audible alarm when CPU
  temperature exceeds 60°C (±5°C)

- **Board Dimensions** : 340 (L) x 122 (W) mm.

- **Board Weight** : 0.41 Kg

- **Operating Temperature**: 0 to 55°C

Ordering

❑ **PIA-652DV :** Full-size PCI/ISA Pentium CPU Card
  with CRT SVGA Interface
  and DiskOnChip Flash Disk socket

❑ **PIA-652D :** Full-size PCI/ISA Pentium CPU Card
  with DiskOnChip Flash Disk socket